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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/512,410

10/25/2004

Susumu Hoshi

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4613

22852

7590

03/29/2010

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EXAMINER

MULLIS, JEFFREY C

ART UNIT

PAPER NUMBER

1796

MAIL DATE

DELIVERY MODE

03/29/2010

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/512,410	<b>Applicant(s)</b> HOSHI ET AL.	
	<b>Examiner</b> Jeffrey C. Mullis	<b>Art Unit</b> 1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 23 December 2009.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 and 9-25 is/are rejected.
- 7) ☒ Claim(s) 7 and 8 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)         | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)         | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                          |

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The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-6 and 9-25 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Moczygamba (US 5,227,419).

Patentees in run 2 in column 9, lines 6 et seq and elsewhere discloses a process in which styrene/diene block copolymers having greater than 60% styrene are produced using alkyl lithium initiators and having blocks produced from pure charges of styrene and other blocks produced from mixed charges of styrene/diene containing predominately styrene in the presence of randomizer. Since the applicants specification produces block copolymers having applicants characteristics by processes also having the above features it would reasonably appear that applicants and patentees materials inherently have identical characteristics. Use of applicants stabilizers are disclosed at column 5, lines 7-17. Sheets are produced at column 8, lines 10-11.

When the reference discloses all the limitations of a claim except a property or function, and the Examiner cannot determine whether or not the reference inherently possesses properties which anticipate or render obvious the claimed invention, basis exists for shifting the burden of proof to applicant. Note In re Fitzgerald et al. 619 F. 2d 67, 70, 205 USPQ 594, 596, (CCPA 1980). See MPEP § 2112-2112.02.

Claims 1-6 and 9-25 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Guntherberg, (US 6,162,867), newly cited by applicants.

Patentees in column 13, lines 27 et seq disclose a block copolymer in which styrene is polymerized using an alkyl lithium initiator in the presence of a randomizer following which mixed multiple charges of styrene/diene are polymerized in which high ratios of styrene/diene are used and in which the calculated molecular weight of the homopolystyrene block resulting from polymerization of the pure styrene charge is less than 35,000. Isoprene may be used as the diene in patent claim 9. Lubricants may be added at column 11, lines 54-64. Patent claim 1 under "B" discloses addition of styrene polymers as in instant claim 12. Since applicants produce their materials in a similar manner in their specification examples, identical characteristics are assumed inherent.

When the reference discloses all the limitations of a claim except a property or function, and the Examiner cannot determine whether or not the reference inherently possesses properties which anticipate or render obvious the claimed invention, basis exists for shifting the burden of proof to applicant. Note In re Fitzgerald et al. 619 F. 2d 67, 70, 205 USPQ 594, 596, (CCPA 1980). See MPEP § 2112-2112.02.

Claims 7 and 8 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Applicant's arguments filed 12-23-09 have been fully considered but they are not persuasive. Applicants appear to argue that step 4 of Moczygemba does not add any appreciable amount of homopolystyrene to Moczygembas' block copolymer. However even a completely random block would contain at least one styrene terminal unit half of the time and Moczygemba does not even view their mixed blocks as "random", but rather as "tapered", a term indicating a block terminally rich in styrene. Since a pure charge of styrene is subsequently added, even sequences of styrene of less than 30 will count as the "styrenes having an average polymerization degree of 30 or more" since these sequence will be attached directly to the block "formed by the pure charge of styrene. Thus even a single terminal unit present in a truly random S/B block (such as is certainly not Moczygembas' materials) would count as part of applicants "styrenes having an average polymerization degree of 30 or more". Tapered blocks are recognized in the art as poorly defined. Note Gottschalk (US 6,043,315) at column 3,

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lines 33-43 in this regard. Thus the presence of sequences of styrene at the end of tapered S/B blocks is therefore recognized in the art. The examiner agrees that claims 7 and 8 are allowable over the prior art.

Applicants specification, in a manner similar to Guntherberg, polymerizes butadiene/styrene mixed charges in the presence of randomizer and adds multiple mixed charges of butadiene and styrene. Despite this, applicants percentage of block styrene for "A-1" in Table 1 is vastly more than the 18% styrene (or 14% based on total monomer in the polymer) present in the pure charge of styrene used to produce it and it can therefore more than reasonably be deduced that the amount of block styrene in Guntherberg is also much more than calculated based on the assumption that only pure charges of styrene produces homopolystyrene blocks.

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

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Any inquiry concerning this communication should be directed to Jeffrey C. Mullis  
M-F, 9-5 pm at telephone number 571 272 1075.

Jeffrey C. Mullis  
Primary Examiner  
Art Unit 1796

JCM

3-25-10

/Jeffrey C. Mullis/

Primary Examiner, Art Unit 1796